

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claim 8 has been canceled.

Claims 27-29 have been added.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1-7 and 9-29 are now pending in this application.

Rejections under 35 U.S.C. § 112

Claims 14 and 21 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Applicant respectfully submits that the amendments to the claims render these rejections moot. Reconsideration and withdrawal of these rejections is respectfully requested.

Rejections under 35 U.S.C. § 102

Claims 1, 2, 4, 5, 8, 16, 18, and 26 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 5,300,209 to Mori (hereafter "Mori"). This rejection is respectfully traversed.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See generally M.P.E.P. § 2131.

Mori discloses an anodizing method for a metal film formed on a substrate, such as a thin-film transistor. See Mori at col. 1, lines 6-19. Mori discloses that a lower electrode 22 can be made of an Al based alloy and that an oxide film 22b can be formed on the lower electrode 22 and that the oxide film 22b can have a thickness of 300 nm. See col. 6, lines 50-58, of Mori. However, Mori further discloses that additional layers are formed on the lower

electrode 22 and the oxide film 22b, such as a SiN film 23, a Si layer 24, and an upper electrode 25.

Although the Office argues on page 3 of the Office Action that the device of Mori is capable of being soldered, Mori does not disclose that additional layers formed on the oxide film 22b of Mori (such as the SiN film 23, a Si layer 24, and the upper electrode 25) are formed by soldering or that any other soldering step is performed so that a solder layer is directly applied to the oxide film 22b of Mori, as recited in claims 1 and 26. In fact, it appears that the additional layers of Mori would be deposited without the use of solder, such as via chemical vapor deposition.

The Office argues on page 4 of the Office Action, in regard to claim 8, that the electrodes 22 would function as a solder layer. However, the Office has already indicated that the electrodes 22 function as a soldering workpiece and an oxide film formed on the electrodes 22 as an oxide and/or hydroxide layer on the workpiece, as recited in claims 1 and 26. The electrodes 22 of Mori cannot serve as both a soldering workpiece and a solder layer that is directly applied to an oxide and/or hydroxide layer on the soldering workpiece, as recited in claims 1 and 26. Furthermore, Mori is silent in regard to the use of a soldering process, a solder layer, or that any additional layers formed on the oxide film of Mori are formed by soldering.

Therefore, Mori does not anticipate the soldering workpiece of claims 1 and 26 because the device of Mori does not include a “a solder layer comprising an aluminum compound, wherein the solder layer is directly applied to the oxide and/or hydroxide layer,” as recited in claims 1 and 26.

Reconsideration and withdrawal of this rejection is respectfully requested for at least the reasons discussed above.

Claims 22 and 25 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,844,777 to Werner (hereafter “Werner”). This rejection is respectfully traversed.

Applicant notes that the Office provides a rejection of claims 23 and 24 under 35 U.S.C. § 102 over Werner on page 6 of the Office Action but also provides a rejection of claims 23 and 24 under 35 U.S.C. § 103 over Werner and another reference on page 10 of the

Office Action, noting that Werner does not disclose all of the features of claims 23 and 24. Applicant respectfully submits that claims 23 and 24 are only rejected under 35 U.S.C. § 103.

Werner discloses fluxless brazing of aluminum in which the surface of an aluminum or aluminum alloy part is first pretreated by a chemical cleaning action to provide a “workably thin” oxide film. See Werner at col. 1, lines 8-52; col. 2, lines 18-30. Werner discloses that the oxide film is treated so that it is sufficiently thin to be penetrated by a fluxless filler alloy. See Werner at col. 2, lines 30-34.

However, Werner does not disclose a soldering process comprising, among other things, the step of increasing a thickness of an oxide and/or hydroxide layer arranged at a surface of the soldering workpiece to a thickness sufficient to provide contact between a soldering compound and the soldering workpiece underneath the oxide and/or hydroxide layer during a subsequent soldering process, as recited in claim 22. Instead, Werner discloses the pretreating a surface of a workpiece with a chemical to reduce a thickness of an oxide film, not to increase the thickness of the oxide film. Thus, Werner does not disclose all of the features of claim 22. Claim 25 depends from claim 22.

Werner does not anticipate claims 22 and 25 because Werner fails to disclose all of the features of claim 22. Reconsideration and withdrawal of this rejection is respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 9, 17, and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mori. As discussed above, Mori does not disclose or suggest all of the features of claim 1, from which claims 9, 17, and 19 depend. Furthermore, it would not have been obvious to modify the device of Mori to provide the soldering workpiece of claims 9, 17, and 19 because Mori does not disclose or suggest all of the features of claims 9, 17, and 19. Reconsideration and withdrawal of this rejection is respectfully requested.

Claim 3 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Mori as applied to claim 1, and further in view of U.S. Patent No. 3,986,897 to McMillan *et al.* (hereafter “McMillan”). This rejection is respectfully traversed. McMillan fails to remedy the deficiencies discussed above in regard to independent claim 1, from which claim 3 depends.

Claims 6, 7, 10-15, and 21 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Mori as applied to claim 1, and further in view of U.S. Patent No. 3,747,199 to Swaney, Jr. (hereafter "Swaney"). This rejection is respectfully traversed. Swaney fails to remedy the deficiencies discussed above in regard to independent claim 1, from which claims 6, 7, 10-15, and 21 depend. Furthermore, Swaney regards a brazing process, which involves different considerations than a soldering process, such as higher processing temperatures relative to soldering. Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 23 and 24 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Werner as applied to claim 22, and further in view of U.S. Patent No. 3,666,869 to Orecchia (hereafter "Orecchia"). This rejection is respectfully traversed. Orecchia fails to remedy the deficiencies discussed above in regard to independent claim 22, from which claims 23 and 24 depend. Reconsideration and withdrawal of this rejection is respectfully requested.

New Claims

New claims 27-29 have been added. Claims 27 and 28 depends from claim 22 and claim 29 depends from claim 26. Applicant submits that claims 27-29 are allowable over the prior art for at least the reasons discussed above and for their respective additional recitations.

Conclusion

Applicant submits that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the

Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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